Resolution of Non-Directed RI and BRA Report Comments.

Comment	Comment Numbers	Proposed Resolution
Draft RI Report Comments		
RI Document Outline/Section-by-Section Objectives	G5, G21, S81, S107, S234-238, S245	The RI Report does not need to be reorganized. Much of the information requested by the comments can be provided in Section 10 (CSM).
Linking Sources to In-water Contamination/ Property Names on Maps	G8 S33, S222, S235, S306, S313, S314, S326, S327, S352	DEQ information may be used to support this evaluation, the RI (and the CSM in particular) should be comprehensive with respect to both in-water contamination and upland sources.
Identification of Sources/Presentation of Source Information	G6, G7, G16, G19 S81, S82, S89, S90, S96, S105, S107, S109, S115, S116, S118-S138, S151, S152, S153, S154, S157, S161 S165, S166, S169, S171, S172, S176, S179, S181, S183, S184, S185,S186, S188, S189, S191, S195, S196, S198, S200, S202, S203, S205, S209, S213, S290	Consistent with previous EPA/LWG agreements, the site summaries do not need to be updated. FS source tables should serve as the basis of the source evaluation. Property names do not need to appear on sediment contamination maps but will need to appear on localized CSM/AOPC maps. Screening of upland contaminants is not required but some evaluation of the magnitude of the upland contamination is required. Additional sites should be included based on available DEQ information. Detailed information from 104e responses is not required but summary level information is required.

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Comment	Comment Numbers	Proposed Resolution
Groundwater/TZW Characterization and Analysis	G12, G13, G14, G15, G17, G18, S53, S187, S190, S264, S276, S328	LWG objects to tone of comment and implication that the work the LWG did was inconsistent with agreements between EPA and the LWG. EPA acknowledges that the work was performed consistent with EPA/LWG agreements. The GW/TZW evaluation should acknowledge the limitations of th results.
Groundwater Site Selection and Pathway Determinations	S187, S188, S190, S191	Screening of upland groundwater is not required. However, an evaluation of TZW relative to various criteria is required. Site selection criteria and approach will be more clearly described.
Deletion of Appendix A5	S333	The LWG recommendation is to re-title Appendix A5 to eliminate reference to Administrative Record which is an EPA task (e.g., PH communication log).
Data Lockdown Date	S23, S218	Unresolved. The issue here is what information should be in the RI and FS data bases and how this information should be incorporated into the revised RI Report. EPA and the LWG will meet to discuss how to make the change
Clarification Needed	S8, S57, S263, S343	Unresolved Not discussed. LWG will provide requested clarification in writing.
Subsurface Core Maps	G4, S230	Unresolved. The issue here is how to best present the subsurface core data in the RI and FS reports. EPA and the LWG will meet to discuss how to make the change.
Congener Ratios	S232	EPA agrees with proposed response; congener ratios will not be required.

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TZW Maps:	S257	Unresolved. EPA will revisit this comment to determine whether maps are adequate and what changes are required.
Surface Water Results Maps	S24	Unresolved. The issue here is how to best present the surface water results in the revised RI report. EPA and the LWG will meet to discuss how to make the change.
Screening TZW to RBSLs	S347	Some comparison to risk based and other screening levels will be provided for TZW. Screening was performed to support BERA and BHHRA.
Revised RI Document Format/Updated Data Presentations	S23, S214, S218, S220, S221, S255	EPA agrees with LWG response regarding Section 5 organization.
Inclusion of HST and F&T Modeling in Final RI	G20, S66, S307, S310, S311	EPA agrees with LWG response regarding HST and F&T modeling.
Background Statistical Outliers	S279	The LWG response is acceptable; some revisions for clarity will be made.
Stormwater N&E	S334	The LWG will add a table presenting stormwater statistics for the Study Area as a whole, i.e., not parsed by land use categories. Evaluation of the risks associated with stormwater is not required however, the RI report should assess the contribution of stormwater to site risks.

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Piper Diagrams	S335, S336	Unresolved. Need more specifics from commenter.A brief, qualitative discussion of variability in the major ion geochemistry will be added to Appendix C2 and the main text of the RI in response to this comment. However, the LWG disagrees that it did not fully respond to EPA's 2006 comments on the Piper Diagrams and disagrees with EPA's comment that the presentation of major ion data in Appendix C2 is neither coherent nor understandable. Resolution of this comment is unclear.
TZW Background	S337	Report will make it clear that the source of manganese in TZW at the is unknown and that it is likely the result of contaminant induced and natural background conditions
Cr and As in Groundwater to River	S353	The LWG proposes to revise Section C3.8.5 to summarize these facts and acknowledge that there is uncertainty regarding the source of arsenic and chromium detected in TZW samples offshore of the Willbridge site. The response is generally acceptable but should acknowledge the higher levels of these metals in groundwater discharge areas than in areas without groundwater discharge.

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Mn in TZW/Groundwater	S356, S360	The LWG concludes that the dominant control on As, Ba, and Mn concentrations in TZW are the local geochemical conditions of the shallow sediment environment from which the TZW samples were collected, irrespective of whether those conditions are the result of naturally occurring or introduced labile carbon. Report will make it clear that the source of arsenic, barium and manganese, in TZW at the is unknown and that it is likely the result of contaminant induced and natural background conditions
DDX 2,4' Isomers	S256	The LWG response that the DDX signature discussed in the comment is more applicable to DDX products than to manufacturing waste products and that there is no reason to suspect issues with the quality of these data is acceptable.
Default TOC Concentrations	S26	The TOC calculation is consistent with previous EPA/LWG agreements; no change is necessary.
Background 95UCL	S280	The LWG response and citation of the ProUCL 4.0 guidance is acceptable.
Phytoplankton	S244, S65	The LWG response is acceptable.
Particulate PCB Values	S248, S252	The LWG response is acceptable.

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Comment	Comment Numbers	Proposed Resolution
Comments the LWG Agrees to Address	General Comments: 1-3, 9, and 10. Specific Comments: 1-4, 10-15, 16-20, 22, 25, 27-29, 30-32, 34-52, 55, 56, 58- 1, 63, 64, 67-70, 72-75, 77-80, 85-88, 91-95, 97-103, 104, 106, 110-114, 117, 139, 141-143, 145, 146, 148-150, 155, 156, 158-160, 162-164, 167, 168, 170, 173, 174, 177, 178, 180, 182, 192-194, 197, 199, 204, 206-208, 210, 212, 215-217, 219-221, 223, 225, 226, 227-229, 231, 239-242, 247, 249, 250, 258, 259-262, 265-270, 272, 274, 275, 282-289, 291-294, 298-300, 303-305, 308, 309, 315, 316, 318-321, 323-325, 329, 339-342, 350, 355, 357, 359, 362	The RI will be revised in general accordance with these comments.
Gasco Offshore Groundwater Detections	S344, S346, S348, S349	A discussion of the near-bottom surface water samples collected offshore of the GASCO site will be provided. EPA agrees that both groundwater and in-water sediment contamination may contribute to surface water detections.
LWG Disagrees with EPA Comment	S5-S8, S21, S24, S54, S62, S71, S83, S84, S108, S140, S144, S147, S175, S201, S211, S251, S281, S312, S322	Unresolved. Generally minor comments that LWG disagrees with. The LWG will provide rationale in the comment response document. Most responses should be generally acceptable.
Comments Addressed in the Risk Assessments	S9, S76, S295, S296, S297, S301, S302, S317, S330, S331, S332, S34	No change. Addressed in risk assessment comments response.
Comment Noted. No Action Required	S224, S233, S246, S253, S254, S277, S278, S338, S345, S351, S354, S358, S361	No change required.

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Comment	Comment Numbers	Proposed Resolution
Other	S247, S271, S273	This set of comments relates to data or information that do not exist to perform the requested change (S247 – 5 of 7 figures will be generated as requested; 2 of 7 figures will not be generated).
Draft BHHRA Comments		
Change to Exposure Scenarios	General 10, General 12(ii), 10, 45, 52, 163	Evaluation of Ingestion of human health by infants: The LWG will add this scenario to other exposure scenarios beyond fish consumption (e.g., direct contact with sediments) for bioaccumulative chemicals. Combining adult and child exposure scenarios: The LWG will modify the scenarios. The current PRGs will be retained and the basis for retention will be explained in the risk management section. Addition of beach user exposure to groundwater seeps: Change not required. Use of the 95% UCL/maximum for all exposure scenarios: Central tendency – EPC is the mean; RME – EPC is the 95% UCL. New child receptors: No new receptors are required.
Change in Dataset	32, 38, 39, 40, 54, 194	The proposed LWG response is acceptable.
Clarification Needed	10, 110, 120, 159, 187	The proposed LWG response is acceptable.
Summary of Risk Results	76, 78, 92, 97	The proposed LWG response is acceptable.
Carcinogenic PAHs	164	The proposed LWG response is acceptable.
Additional Language, Information, and/or Analyses Will Be Provided	65, 90, 100, 160, 167, 177, 185, 195, 196, 197, 199, 201, 206, 207, 210, 211	The LWG accepts the comment and will include additional language, information, and/or analyses in the revised BHHRA in addressing the comment.

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Comment	Comment Numbers	Proposed Resolution
Probabilistic Risk Assessment (PRA)	107	The LWG will make it clear that the use of the PRA may or may not result in an improved uncertainty section depending on knowledge of the underlying distributions used in the PRA.
Use of the Term "Conservative"	1, 5, 175	The LWG will use the term "conservative" or "health protective" but not both in conjunction with one another (i.e., "conservative, health protective.")
Modification to Suggested Language	2, 3, 6, 50, 71, 145	Unresolved. Not discussed fully.
Description of RME Exposure Point Concentration	20, 52, 186	The LWG will call the scenario: mean, maximum or 95% UCL.
Other	19, 34, 42, 46, 72, 121	While the LWG believes that the language in the draft BHHRA is accurate and consistent with risk assessment guidance and disagrees that the changes requested in these comments are needed, the BHHRA will be revised per these comments.
Issues that do not need further discussion with EPA	Various	Comment has either already been addressed through directive comments or BHHRA will be revised in accordance with comment.
Draft BERA Comments		
Calculation of additive risks to fish for dietary LOE	23	Consistent with the EPA problem formulation, the proposed LWG response is acceptable.

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Comment	Comment Numbers	Proposed Resolution
Assess risk at the individual sample scale vs. 95% UCL over larger spatial extent.	17, 37, 40, 43, 85, 107, 122, 131, 149, 151, 131, 135, 149	All receptors should be evaluated on the scale identified in the problem formulation. For large home range fish, it is unlikely that there are sufficient tissue samples to develop 95% UCLs thus the maximum concentration will likely be used. For all fish the problem formulation proposes to "evaluate on a composite by composite basis to protect for localized population effects independent of home range". This would entail showing composites that are above risk levels, not just the maximum.
Fish tissue TRVs Antimony, Cd, PCBs, DDx, Hg, Lindane	47, 110, 112, 119, 123, 124, 139, 147, 202, 203, 204, 205,	Antimony will be recalculated consistent with the EPA TRV methodology. Mercury will also be recalculated. All TRVs must be developed consistent with EPA prescribed methodology.
Inclusion of carp data in fish tissue residue analysis	106, 109, 120, 197	Consistent with the EPA problem formulation, the proposed LWG response is acceptable.
Use of TTC/TSC methods for dietary approach.	128, 201, 206	EPA will review the calculation methodology to ensure that both approaches give the same result.
Bird dioxin TRV	200	The proposed LWG response is acceptable.
Inclusion of recently available osprey egg data	49, 82, 154, 156, 163	The LWG agrees to use the newly available osprey egg data; the proposed LWG response is acceptable.
Clarifications needed Non-directed comments:	44, 103, 71	Unresolved. Further discussion on clarifications is required. It is unclear why the EPA comments/request is unclear.

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Comment	Comment Numbers	Proposed Resolution
Use of background/upstream	27, 70, 90, 116, 117, 127	The LWG may discuss upstream/background contributions consistent with EPA policy on background. While background should be considered, the dataset we currently have are from fish much larger than what was collected in the ISA. This should be clear in the document. Fish tissue is discussed in comment 70, 116, and 117.
Further evaluation of lesion prevalence in fish	63, 136	Due to the low incidence of lesions and the lack of relevant background data, the proposed LWG response is acceptable.

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Comment	Comment Numbers	Proposed Resolution
SLERA/Refined screen Process.	16, 77, 80, 81, 82, 123, 199, 201	The LWG will include additional tables that present the results of the screen and the basis for eliminating chemicals from further ~~consideration~~consideration. There are two issues here: 1). Do we agree with the Refined Screen Process and 2) Did they show their work. Currently, DEQ does not agree with the Refined Screen Process as it is applied to all media. Detection of chemicals in sediment and composites of carp, large scale sucker, northern pike minnow, peamouth, lamprey, mussels, etc can be removed from the screening process. For sediment, it is unclear if the additional consideration of three or more contiguous samples was applied to the screening process before removal. Also, for tissue an individual sample did not produce an HQ>5 it was dropped from further evaluation. This was not a component of the Problem Formulation. We would want to see all samples with HQ>1 carried through. Finally, the criteria of "log Kow>4" should not be applied to tissue. This is meant to be an indicator of bioaccumulation from sediment to tissue, but if a chemical is detected in tissue it needs to be evaluated. The best way to resolve this issue would be to submit the additional Revised Screen documentation for review prior to finalizing comments.

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Comment	Comment Numbers	Proposed Resolution
Dietary uncertainty analysis	105, 146, 150, 157	The LWG will provide additional tables similar to Figure 8-4.
Downstream Data	115, 126	The proposed LWG approach is acceptable
Use of BSAFs/ BSARs in shore-bird risk calculations.	158, 159, 160	Unresolved. Side bar conversation took place. Additional feedback from Jennifer Peterson is required. I submitted some information to Burt. This is tied into the Bioaccumulation Report, but these comments were specifically related to the need to calculated BSAFs and BSARs for invertebrates for use in the shore-bird risk evaluation (lab worms, lab clams, field clams). This was asked for in the problem formulation.
Fish dietary PCB and DDT TRVs	198, 208.	Consistent with the EPA problem formulation, the proposed LWG response is acceptable.
Include HQs in summary tables	20, 75, 77, 114, 173	Unresolved. Table 11-2 will be revised to include HQs similar to table 7-40. Table 11-1 will include HQ ranges for each LOE. However, a consise risk assessment results summary table should be prepared. EPA will provide examples to the LWG. I agree with Burt's comments on this. While I think this is an important part of any risk assessment, at the very least, this is needed to line up different lines of evidence in the risk assessment.
Remove table 7-40 "effects considerations" column	144	The proposed LWG response is acceptable.

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Comment	Comment Numbers	Proposed Resolution
Use factual statements	22	The LWG proposed response of adding references to support scientific statements is acceptable
Address uncertainty in RI dataset	24	The LWG proposed response of discussing uncertainties associated with sampling is acceptable.
Use of XAD vs. peristaltic data	132	EPA does not agree that the XAD data are necessarily superior to the perstialtic data. The LWG will include a comparison of XAD vs. Peristaltic data at sample locations where both data exists. I am hoping they will screen and present the results of both the XAD and peristaltic data for all COIs. I wouldn't want to see a comparison without the screening.

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Population vs. organismal evaluation	3, 138, 141, 162	Consistent with EPA guidance, organism levels effects may be extrapolated to population level effects. The discussion in the meeting was confusing, as it seems like estimates of *exposure* (tissue residue, comments 141) were confused with individual versus population *effects* (comments 3, 162 (HQ)). Estimates of exposure are not for individual organisms but for a group of fish composited together. As long as they were composited over a home range relevant to the receptor (which they were) individual composite samples are good estimates of local population exposure. We were clear in the problem formulation that composites represent uncertainty in the exposure of populations since they are an average and omit data on the most highly exposed groups of a population – therefore composite by composite risk analysis is appropriate. We are also using LOAEL based tissue residue TRVs, which allow for some mortality to populations. The fact is that we don't have the data to do a true population risk assessment, so we have to use these estimates as outlined in the Prob. Formulation as surrogates.
Calculation of AWQCPCB and DDT direct exposure TRVs	88, 89	Chlordane, heptachlor, and heptachlor epoxide do not screen in as COPCs. As a result, aquatic life TRVs do not need to be calculated.

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Comment	Comment Numbers	Proposed Resolution
Weight of evidence analysis	13	The LWG proposed approach of discussing the relative strength of the LOEs in the risk characterization and using this information in making risk conclusions is acceptable.
Requests to add info/revise document that are not likely to substantially alter the outcome of the BERA	21, 56, 64, 74, 84, 94, 107, 108	The LWG proposed approach of adding information to improve the readability of the documents is acceptable.
Benthic RA	4, 73, 76, 83, 96, 97, 100, 101	Unresolved. Further discussion required. Comments on the benthic risk assessment will be addressed in separate discussions considering EPA's comments on Section 6 of the BERA.
Issues that do not need further discussion with EPA	Various	The LWG either agrees to the revisions or these comments were addressed in the resolution of the directed comments.

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